

switching the high-frequency power for biasing applied to the workpiece from the first power level to a second power level lower than the first power level before the photoresist film becomes completely removed, wherein the same type of processing gas is utilized both before and after switching the power level.

8. (New) A plasma processing method according to claim 7, wherein the photoresist film constitutes a mask used to form a specific pattern at an SiO₂ film formed at the workpiece.

9. (New) A plasma processing method according to claim 7, wherein the photoresist film constitutes a mask used to form a specific pattern at an organic film formed at the workpiece.

10. (New) A plasma processing method for removing a photoresist film formed at a workpiece having a fence portion placed within a processing chamber, comprising:

applying high-frequency power for biasing to the workpiece at a first power level;

raising the processing gas to a plasma; and

switching the high-frequency power for biasing applied to the workpiece from the first power level to a second power level lower than the first power level before the photoresist film becomes completely removed.

11. (New) A plasma processing method according to claim 10, wherein the fence portion is removed during applying high-frequency power for biasing to the workpiece at the first power level.

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12. (New) A plasma processing method according to claim 10, wherein the first power level is switched to the second power level due to removing the fence portion.
13. (New) A plasma processing method according to claim 10, wherein the photoresist film constitutes a mask used to form a specific pattern at an SiO₂ film formed at the workpiece.
14. (New) A plasma processing method according to claim 10, wherein the photoresist film constitutes a mask used to form a specific pattern at an organic film formed at the workpiece.
15. (New) A plasma processing method for removing a photoresist film formed at a workpiece placed within a processing chamber, comprising:
 - etching the workpiece;
 - applying high-frequency power for biasing to the workpiece at a first power level and removing a fence portion formed during etching;
 - raising the processing gas to a plasma; and
 - switching the high-frequency power for biasing applied to the workpiece from the first power level to a second power level lower than the first power level before the photoresist film becomes completely removed.
16. (New) A plasma processing method according to claim 15, wherein the photoresist film constitutes a mask used to form a specific pattern at an SiO₂ film formed at the workpiece.

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17. (New) A plasma processing method according to claim 15, wherein the photoresist film constitutes a mask used to form a specific pattern at an organic film formed at the workpiece.
18. (New) A plasma processing method for removing a photoresist film formed at a workpiece placed within a processing chamber, comprising:
 - applying high-frequency power for biasing to the workpiece;
 - raising the processing gas to a plasma; and
 - stopping application of the high-frequency power for biasing before the photoresist film becomes completely removed, while utilizing the same type of processing gas both before and after stopping application of the high-frequency power.
19. (New) A plasma processing method according to claim 18, wherein the photoresist film constitutes a mask used to form a specific pattern at an SiO₂ film formed at the workpiece.
20. (New) A plasma processing method according to claim 18, wherein the photoresist film constitutes a mask used to form a specific pattern at an organic film formed at the workpiece.
21. (New) A plasma processing method for removing a photoresist film formed at a workpiece having a fence portion placed within a processing chamber, comprising:
 - applying high-frequency power for biasing to the workpiece;
 - raising the processing gas to a plasma; and

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stopping application of the high-frequency power for biasing before the photoresist film becomes completely removed, while utilizing the same type of processing gas both before and after stopping application of the high-frequency power.

22. (New) A plasma processing method according to claim 21, wherein the fence portion is removed during applying high-frequency power for biasing to the workpiece at the first power level.
23. (New) A plasma processing method according to claim 21, wherein the first power level is switched to the second power level due to removing the fence portion.
24. (New) A plasma processing method according to claim 21, wherein the photoresist film constitutes a mask used to form a specific pattern at an SiO₂ film formed at the workpiece.
25. (New) A plasma processing method according to claim 21, wherein the photoresist film constitutes a mask used to form a specific pattern at an organic film formed at the workpiece.
26. (New) A plasma processing method for removing a photoresist film formed at a workpiece placed within a processing chamber, comprising:
- etching the workpiece;
 - applying high-frequency power for biasing to the workpiece at a first power level and removing a fence portion formed during etching;
 - raising the processing gas to a plasma; and

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stopping application of the high-frequency power for biasing before the photoresist film becomes completely removed.

27. (New) A plasma processing method according to claim 26, wherein the photoresist film constitutes a mask used to form a specific pattern at an SiO₂ film formed at the workpiece.
28. (New) A plasma processing method according to claim 26, wherein the photoresist film constitutes a mask used to form a specific pattern at an organic film formed at the workpiece.
29. (New) A plasma processing method comprising:
etching a film by utilizing a resist film as a mask;
ashing the film with a first biasing power level substantially halfway through the resist film, after etching;
ashing the film with a second biasing power level lower than the first biasing power level, after ashing with the first biasing power level.
30. (New) A plasma processing method according to claim 29, wherein the photoresist film constitutes a mask used to form a specific pattern at an SiO₂ film formed at the workpiece.
31. (New) A plasma processing method according to claim 29, wherein the photoresist film constitutes a mask used to form a specific pattern at an organic film formed at the workpiece.
32. (New) A plasma processing method comprising:
etching a film by utilizing a resist film as a mask;

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ashing the film with a first biasing power level substantially halfway through the resist film, after etching; and applying a second biasing power level equal to zero, after ashing with the first biasing power level. ✓

33. (New) A plasma processing method according to claim 32, wherein the photoresist film constitutes a mask used to form a specific pattern at an SiO₂ film formed at the workpiece.
34. (New) A plasma processing method according to claim 32, wherein the photoresist film constitutes a mask used to form a specific pattern at an organic film formed at the workpiece.
35. (New) A plasma processing method in which a photoresist film with an opening pattern having an opening area larger than the opening area of a hole formed at a specific layer of a workpiece and containing the opening of the hole is used as a mask to implement a plasma etching process halfway through said specific layer and then said photoresist film is removed, comprising:

applying high-frequency power for biasing to the workpiece at a first power level;

raising the processing gas to a plasma; and

switching the high-frequency power for biasing applied to the workpiece from the first power level to the second power level lower than the first power level before the photoresist film becomes completely removed.

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36. (New) A plasma processing method according to claim 35, wherein the photoresist film constitutes a mask used to form a specific pattern at an SiO₂ film formed at the workpiece.
37. (New) A plasma processing method according to claim 35, wherein the photoresist film constitutes a mask used to form a specific pattern at an organic film formed at the workpiece.
38. (New) A plasma processing method for removing a photoresist film having an opening pattern with a larger opening area than an opening area of a hole formed at a specific layer of a workpiece, the opening of the hole contained in the opening pattern when the specific layer is etched to a middle portion thereof by utilizing the photoresist film as a mask, comprising:
- applying high-frequency power for biasing to the workpiece;
 - raising the processing gas to a plasma; and
 - stopping application of the high-frequency power for biasing before the photoresist film becomes completely removed.
39. (New) A plasma processing method according to claim 38, wherein the photoresist film constitutes a mask used to form a specific pattern at an SiO₂ film formed at the workpiece.
40. (New) A plasma processing method according to claim 38, wherein the photoresist film constitutes a mask used to form a specific pattern at an organic film formed at the workpiece.